GARY R. HERBERT
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Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Oil, Gas and Mining
JOHN R. BAZA
Division Director

February 25, 2015

Doug Thornton
U.S. Oil Sands (Utah), Inc.
170 South Main Street, Suite 500
Salt Lake City, Utah 84101

Subject: Second Review of Revised Notice of Intention to Commence Large Mining Operations, U.S. Oil Sands, PR Springs Mine, M/047/0090, Uintah County, Utah

Dear Mr. Thornton:

On February 3, 2015, the Division of Oil, Gas and Mining received your responses to the Division's initial review of a revision to the PR Spring mine. The attached comments will need to be addressed before the Division issues tentative approval of this significant revision.

Because there are only three remaining issues, please submit two complete, clean copies of the Notice of Intention, but please also include a document showing wheremodifications were made.

The Division will suspend further review until receiving a response to this letter. If you have any questions in this regard please contact me at 801-538-5261, project lead April Abate (aa) at 801-538-5214, or Leslie Heppler (lah) at 801-538-5257. Thank you for your cooperation.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB:aa:mj
Attachment: Review
cc: Jerry Mansfield, SITLA jmansfield@utah.gov
o:\m047-uintah\m0470090-prspringmine\draft\rev-6455-02252015.doc

SECOND REVIEW OF NOTICEOF INTENTION TO COMMENCE LARGE MINING OPERATIONS

U.S. Oil Sands
PR Spring Mine

M/047/0090
February 25, 2015

General Comments:

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
1	General	Submittal should be formatted to easily incorporate additional revisions and amendments. (No response needed.)		
2	General	The Division may generate additional comments based on the response to this review. (No response needed.)		

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
5	~~All X-sections~~	~~On Figures 6a, 6b and 6c, please reduce the vertical exaggeration. The current depiction of exaggerated cross section profiles gives the impression of steep terrain and may be misunderstood by the public.~~	~~lah and aa~~	
7	Omission	The Division wrote on January 21, 2015 "Please add a figure or plan sheet of "typical BMP's" for erosion control." Specifically the stone check dam was omitted as a BMP ~~The BMP design drawings from the original Notice were omitted for this submission. The Division would like to have the BMP erosion control structures resubmitted so these structures match the ones that will be used onsite.~~	lah lah ~~aa~~	

105.1 - Topographic base map, boundaries, pre-act disturbance

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
8	Figure 2	~~The premining map shows the location of the soil stockpile in the same location as it is shown on Figure 4D at the end of year 4. Please make the appropriate correction.~~	aa	
9	Figure 2	~~The topsoil stockpile and stormwater management area colors on the map legend are too similar and should be changed so they can be better distinguished.~~	aa	

105.2 - Surface facilities map

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

105.3 - Drawings or Cross Sections (slopes, roads, pads, etc.)

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
11	~~Figure 4d~~	~~Please include reclamation maps up through the end of year 6, since that is what the text states will be the completion time for the Phase I activities.~~	aa	
12	~~Figure 7~~	~~Please be more specific about which sediment control features will be used at the bottom of the pit slopes instead of labeling the areas SED BMP.~~	aa	
15	~~Figure 11~~	~~Please include the placement of interim reclamation erosion control features on this map (see comment 38).~~	aa	

R647-4-106 - Operation Plan

106.2 - Type of operations conducted, mining method, processing etc.

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
16	Page 10 para 2	~~Subgrade ore: a) Show locations of temporary stockpile on the maps, and b) Restate "suppress dust on roads or other areas." (See page 14, para 1 from June 9, 2014, approval.) The size of the subgrade ore stockpiles should be relative to Table 3. This also applies to paragraph 4 on page 11.~~ ~~Subgrade ore should not be mixed with water and used for dust suppression on the roads or other areas. This creates an unnecessary risk of petroleum hydrocarbon laden water as runoff that could enter drainages in the surrounding area.~~	~~lah~~ aa	
20	Pg. 13 106.2	~~The plan indicates that the solvent will be recycled and returned to the front of the process. Is there any solvent and/or process water that eventually cannot be recycled any further and will require storage for off site disposal?~~	aa	
23	Page 16 Para 2; Page 15 Para 4	The Division wrote on January 21, 2015 "The Notice refers to "straw waddles or similar BMP." The Division suggests that this be rewritten as, "the appropriate erosion BMP, as defined under the impacts section of the Notice." The Division generally prefers stone check dams over straw waddles, but each has their appropriate application. Please include a drawing or plan sheet with the BMPs that could be used at the site." The Division would like to rewrite the above statement to – " The Division recommends stone check dams over straw waddles, but each has their appropriate application." Please include a figure of a stone check dams as a possible BMP for the site. The Division will provide an electronic copy of a possible stone check dam for erosion control. Other drawings of stone check dam are acceptable.	lah lah	

106.3 - Estimated acreages disturbed, reclaimed, annually

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
25	~~Page 18 Table 2~~	~~Table notes only nine acres at year six. Please specify in the text what acreage will be remaining at year six.~~	~~lah~~	

106.4 - Nature of materials mined, waste and estimated tonnages

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

106.6 - Plan for protecting & re-depositing soils

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
27	Pg. 22	~~The text contains the statement "…salvaged vegetation will be placed adjacent to or beneath the salvaged soil". As far as possible, vegetation should not be buried under the soil pile but placed on the surface of the pile to promote growth and future live hauling of vegetation for reclamation.~~	aa	

106.8 - Depth to groundwater, extent of overburden, geology

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
28	Page 25 para 3	Include a brief discussion on the stratigraphy below the lowest mining points. Thank you for adding additional stratigraphy below the mine, but additional clarification is needed on the stratigraphy and units, please include specific properties of the geologic units. At a minimum include the thickness and hydrogeologic properties.	lah lah	

R647-4-109 - Impact Assessment

109.1 - Impacts to surface & groundwater systems

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
29	Pg. 28	~~The narrative notes that no springs or seeps were identified within the Phase 1 project area during a May 2014 reconnaissance with personnel from the Division, Water Quality, and the Utah Geological Survey. While this is true, the field reconnaissance did identify springs and seeps flowing within Long Shot Canyon (T16S R23E, Sec. 6), which is part of the Main Canyon watershed. The U.S. Geological Survey has mapped these springs, along with several others within the Main Canyon watershed. Access restrictions prevented the group from conducting a more detailed survey of the other mapped seeps and springs within the watershed. Because the Phase 1 mining area is part of the Main Canyon watershed, it is necessary to evaluate any impacts from the mining operation, which is why a baseline characterization of the springs and seeps is needed. Please include a baseline characterization spring and seep survey to begin in the spring of 2015.~~	aa	

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
30	Pg. 30	~~The water right allotment for the two production wells is 360 acre feet/annually. The source of this water is from the deep Douglas Creek regional aquifer that is located approximately 2,000 below the surface. The Notice does not address what volumes of water are needed to process the bitumen. For the Division to determine that U.S. Oil Sands is not exceeding their allotment of water from water right number 41-3523, please update the narrative and quantify the amount of water used for processing on both a daily and annual basis.~~	aa	

109.4 - Slope stability, erosion control, air quality, safety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

R647-4-110 - Reclamation Plan

110.2 - Roads, highwalls, slopes, drainages, pits, etc., reclaimed

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

110.5 - Revegetation planting program

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
36	Page 46-47	~~The plan states that if the area is broadcast seeded, the area would be disked after seeding. If the area needs to be disked, it should be done just prior to seeding. Otherwise most of the seed would be buried too deeply. Please revise this section.~~ ~~Drill seeding may result in poor establishment of much of the seed. Very small seeds, such as the bluegrass species and sagebrush, need to be broadcast. They can still be seeded with a good rangeland drill if it is equipped with separate seed boxes, and the drop tubes are pulled so that the seed is scattered on the surface rather than going through the furrow openers.~~ ~~Bitterbrush is best seeded with a seed dribbler, or at a minimum a packer wheel is needed if drill seeded (it needs a firm seedbed). Alternatively, it can be hand seeded and stepping on each 'seed hill' to pack the soil.~~	lk lk lk	
37	Page 47	~~The seed mix rates should be adjusted. As listed, it is likely only a stand of grasses would establish and very few forbs or shrubs. Given the small size of several of the species, 12-14 pounds per acre for broadcast seeding should be adequate. It is recommended that the rates for muttongrass and Canby bluegrass be reduced to 0.5 pounds per acre each, and the rates for bluebunch wheatgrass, western wheatgrass, and Basin wildrye be cut in half. While the resulting stand with these changes would still favor a grassland establishment, there would certainly be more forbs and shrubs which are important to resident wildlife species in the area.~~	lk	
38	Page 48	~~Please include a commitment to use erosion controls structures during the interim period from the time when initial seeding has taken place up through the time when vegetation is established well enough to control erosion.~~	aa	

R647-4-113 – Surety

Comment #	Sheet/Page/ Map/Table #	Comments	Initials	Review Action
39		~~Please reevaluate the exploration permit E/19/0053 and determine if the permit or a portion thereof, can be released from bond and transferred over to the large mine permit.~~	aa	
40		~~Upon approval of the significant revision, the operator will be required to post additional surety once the adjusted amount is determined.~~	aa	
41		~~Please include a reclamation cost estimate as part of the second submittal.~~	whw	